A COMPARATIVE STUDY OF PERINEAL MORBIDITY IN LABOUR NATURAL VERSUS LABOUR NATURAL WITH EPISIOTOMY

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DECLARATION

I hereby declare that this dissertation entitled "**A COMPARATIVE STUDY OF PERINEAL MORBIDITY IN LABOUR NATURAL VERSUS LABOUR NATURAL WITH EPISIOTOMY"** was prepared by me under the direct guidance and supervision of **Prof. Dr. P. M. SANTHAMANI, M.D, D.G.O**, Superintendent, Government Kasturba Gandhi Hospital for Women and Children, Chennai – 600 005 attached to Madras Medical College, Chennai.

This dissertation is submitted to the **Dr. M.G.R MEDICAL UNIVERSITY** in partial fulfilment of the University regulations for the award of **MD DEGREE** in **OBSTETRICS AND GYNAECOLOGY**. This dissertation has not been submitted for the award of any Degree or Diploma.

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CERTIFICATE

This is to certify that **Dr. J. ARUMAIKANNU**, has prepared this dissertation entitled "**A COMPARATIVE STUDY OF PERINEAL MORBIDITY IN LABOUR NATURAL VERSUS LABOUR NATURAL WITH EPISIOTOMY",** under my over all supervision and guidance in the Government Kasturba Gandhi Hospital for Women and Children, Madras Medical College, Chennai – 600 005, in partial fulfilment of the regulations of **THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY** for the award of **MD Degree** in **Obstetrics and Gynaecology**.

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CONTENTS

INTRODUCTION

Perineal trauma is a common event in first labours, affecting up to 90% of first time mothers. It is a cause for concern for many women & in some countries has led to a large increase in the numbers of women requesting elective cesarean section. Considerable postnatal morbidity & occasionally mortality can be attributed to this.

Various etiological factors have been associated with perineal trauma namely, large infants, prolonged 2^{nd} stage, instrumental delivery, race, tissue type, ethnicity & nutritional status. Asian women are also at risk of severe perineal lacerations. Perineal trauma can occur either spontaneously or intentionally by a surgical incision – the 'episiotomy'. But of late, the role of episiotomy in normal vaginal delivery, which was once thought to protect the perineum, is being questioned world wide. This study was, therefore, planned to assess the perineal morbidity in women who delivered vaginally with an episiotomy and in those delivered without an episiotomy.

AIMS & OBJECTIVES

1. To find out the incidence of episiotomy in a tertiary care centre.

2. To observe the occurrence of perineal morbidity in women who delivered vaginally with an episiotomy and in those delivered without an episiotomy.

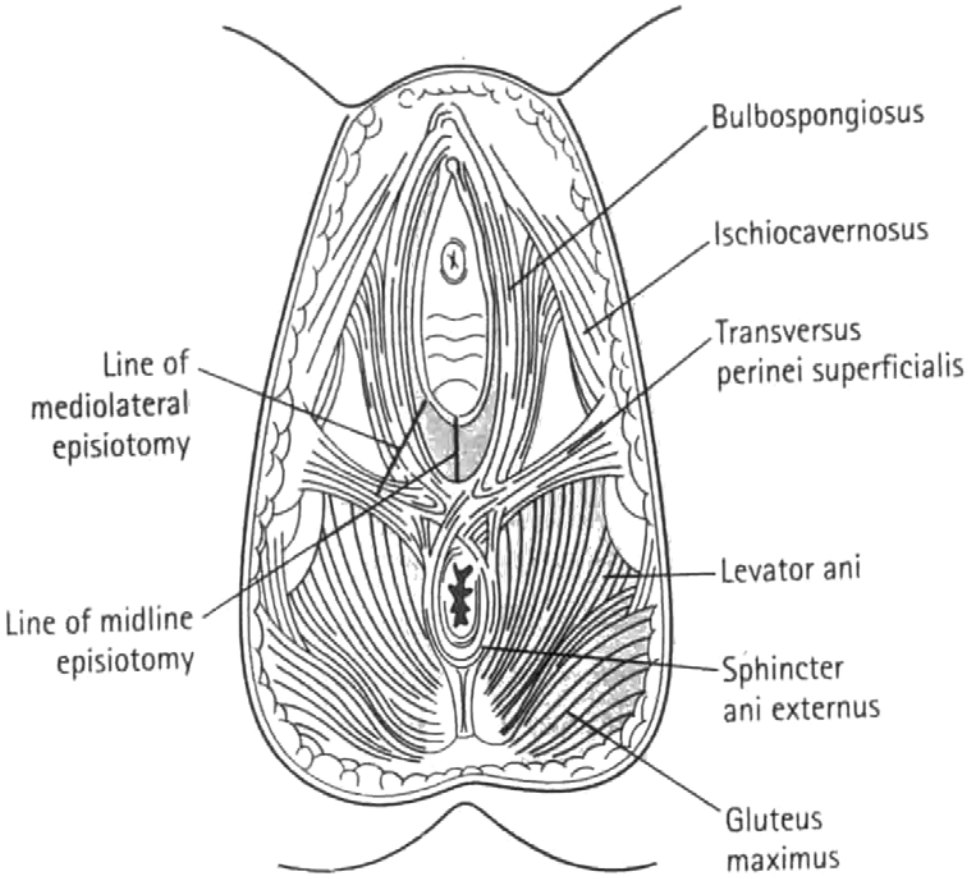
REVIEW OF LITERATURE

A) HISTORICAL REVIEW

A Dublin midwife, **SIR FIELDING OULD** in 1742, was the first to mention in the literature of an incision in the perineum to facilitate a difficult delivery.

- PUZOS recommended support of the perineum to prevent lacerations.
- PARE is said to have sutured the perineum first.
- MICHAELIS in 1799 first recommended midline incision in the perineum.
- DUBOIS in 1847 first described mediolateral episiotomy.
- CARL BRAUN in 1857 – coined the term “episiotomy”.
- RALPH H. POMEROY (1867-1925) & JOSEPH B. DeLEE’S (1869 – 1942) unproven hypothesis were paramount in changing the attitudes towards episiotomy. Episiotomy was therefore accepted as fact by many obstetricians and therefore the percentage of episiotomies and operative vaginal deliveries rapidly increased by the first half of the 20^{th} century. In 1980’s evidence based scientific studies started to question the benefits of episiotomy.

B) ANATOMY OF THE PELVIC FLOOR

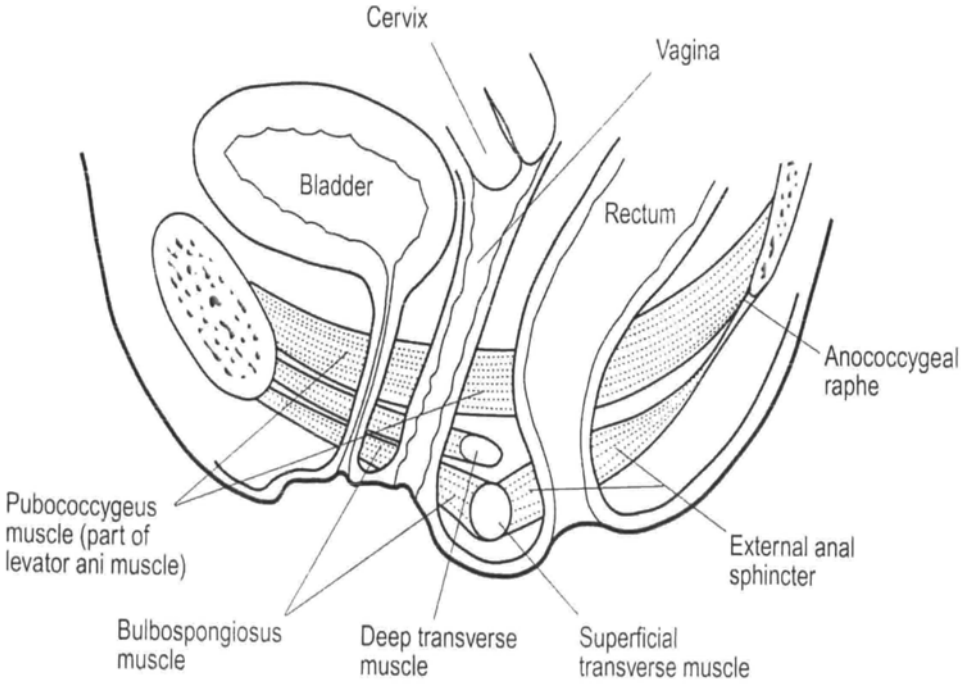


Muscles of the perineum

Pelvic floor is a dynamic structure consisting of -

1) Muscles of the pelvic floor grouped into 3 layers namely the pelvic diaphragm (Levator ani), the urogential diaphragm (Deep transverse perineii) and the superficial muscles of the pelvic floor;
2) the urethral and anal sphincters; and

3) the endopelvic fascia and related structures, which together support the abdomino- pelvic organs and maintain continence.



Pelvic floor

- **Anal Sphincter**

The anal sphincter complex is composed of-

i) the internal sphincter – a direct continuation of the inner circular layer of the rectal muscle. It commences where the rectum passes through the pelvic diaphragm and ends at the anal orifice. It is 1.5 to 5 mm thick and is responsible for 50-80% if resting anal tone; and

ii) the external sphincter – It is composed of striated muscle fibre (voluntary muscle) and is responsible for majority of squeeze pressure.

- **Urethral sphincter**

The urogential sphincter (striated muscle) surrounds the urethra for approximately 20-60% of its length. It has 2 portions-

i) an upper sphincteric portion (sphincter urethrae);and

ii) a lower arch like pair of muscular bands, the compressor urethrae and urethro vaginal sphincter.

The urethral support mechanism essential for continence is dependent on the interaction of the bladder neck, pubo – urethral ligaments, urogenital diaphragm, the muscles of the pelvic diaphragm, the supportive layer of the endopelvic fascia and the anterior vaginal wall.

- Nerve Supply

The striated muscles of the pelvic floor are innervated by the pelvic and pudendal nerves. The pudendal nerve supplies somatic efferents to urethral sphincter and muscles of the pelvic floor. The internal anal sphincter is under autonomic control.

C) CONDUCT OF NORMAL LABOUR

Towards the end of the second stage (when the patient begins to "bear down" during pains) the patient is put in dorsal position. FHR auscultated every 5 min. At this time the head presses against the perineum and the anus begins to dilate. The most important task in the management of 2nd stage is the prevention of perineal lacerations. Perineal lacerations are avoided by, **preventing too rapid an expulsion of the head** (by promoting flexion of the head) **(RITGEN MANOUVER)** & delivery of the head in between contractions.

When the head crowns the vulval outlet, the palmar surface of fingers of one hand is placed over the vertex to prevent the head from being born during a contraction and the other hand is placed over the perineum to help ease the vertex out of the vulval outlet. Episiotomy is given if necessary. After the head is born wait for the next pain to expel the shoulders. The head is depressed downwards to get the anterior shoulder underneath the symphysis. 0.2 mg methergine IV is injected into the patient. Delivery of shoulders helped by gentle traction of head upwards for the posterior shoulder and downwards for the anterior shoulder. After delivery of the head, the body as a rule is rapidly expelled. Cord clamped and cut and baby is separated. Placenta is then

delivered by **BRANDT ANDREW** technique. Perineum is then carefully examined in good light with patient in dorsal position and any lacerations noted & sutured if necessary.

D) PERINEAL TRAUMA

I. TYPES OF PERINEAL TRAUMA

i) Perineal trauma
- Spontaneous
- Intentional (episiotomy)

ii) 2 types
- ANTERIOR – Tears of the labia, Ant. vagina, urethra, clitoris peri & para urethral – (Associated with decreased morbidity)
- POSTERIOR

iii) Lacerations perineum

1st Degree - Lacerations restricted to vaginal epithelium or to skin of fourchette.

2nd Degree - Muscles of the perineal body are torn (transverse perenii bulbo cavernosus & rarely pubo coccygeus)

3rd Degree - Extensions involve any part of the anal sphincter complex RCOG recommends anal sphincter damage as follows:

3a - <50% of EAS is torn;

3b - > 50% of EAS is torn; and

3c – involving internal anal sphincter (almost always involves complete disruption of EAS)

(EAS=External anal sphincter)

4th Degree - Injury to anal sphincter complex extending into the rectal mucosa.

Another rare type of tear is the **central perineal tear** and it usually occurs in patients with contracted outlet.

II. EPISIOTOMY

It is a minor surgical procedure by which an incision is done in the pudenda or the external genitalia to facilitate easy delivery of the presenting part in normal vaginal deliveries.

i) Types

a) Median

b) Lateral – not recommended

c) Mediolateral

The muscles usually divided by giving an episiotomy are the transverse perineii and bulbo cavernosus. Larger incisions may include the pubo coccygeus and extend into the isochiorectal fossa.

ii) Indications

a) Rigid perineum

b) Malpositions

c) Malpresentations

d) Shoulder dystocia / Larger babies

e) Instrumental vaginal deliveries

f) fetal distress / compromise

g) Vaginal birth after cesarian section

h) Maternal medical disorders

III. PERINEAL REPAIR

i) Repair of the episiotomy wound

The perineum should be carefully examined under good light. Any associated lacerations should be noted. The apex of the wound is first identified. Three tissue planes, namely, the vaginal epithelium, the perineal muscle, and the perineal skin have to be approximated using either an absorbable suture material (catgut) or delayed absorbable suture material (vicryl/Dexon) by a 3 stage or 2 stage perineal repair technique. Our aim is to achieve complete haemostasis and proper anatomical approximation.

ii) Outcome of perineal repair

The three main factors that influence the outcome are

a) The type of suturing material
b) The technique of repair and
c) The skill of the operator

- 8 RCT's (Cochrane systematic review) found that absorbable synthetic suture material compared to catgut was associated with less short term morbidity, but no difference in terms of long term pain & dyspareunia.

- 4 RCT's (Cochrane systematic review) say that continuos subcuticular technique for perineal skin closure is associated with less short term pain than interrupted sutures, but no difference in dyspareunia at 3 months post partum.

- 2 stage repair of perineal trauma is associated with less dyspareunia at 3 months post partum than 3 stage technique involving skin –[BJOG 1998; 105; 435-440].

VI. COMPLICATIONS OF PERINEAL TRAUMA

It can be classified into 2 types

Short Term Perineal Morbidity	Long – term perineal morbidity
• Pain • Blood loss • Infection • Psychological effects • Disrupts – breast feeding - family life - social well being	• Persistent Pain • Superficial dyspareunia • urinary incontinence • flatus incontinence • fecal incontinence • Recto – vaginal fistula • psychological effects • Disrupts – breast feeding - family life - social well being

In general complications depend on the severity of perineal trauma & on the effectiveness of treatment. Restricting the use of episiotomy to specific fetal & maternal indications decreases the need for suturing & healing complications- **[Wagner M**. ACE graphics camper down; 165 –174].

V. MECHANISMS OF INJURY TO PELVIC FLOOR

HERTZ in 1909 suggested that straining during child birth may lead to atrophic damage to the pelvic floor as seen in women suffering from chronic constipation who strain excessively to defecate.

a) **Direct muscle trauma** – May occur from perineal lacerations & episiotomy after a vaginal delivery.

b) **Muscle trauma** – Pelvic floor distension due to descent of fetal head & maternal expulsive efforts during active second stage of labour cause anatomic & functional changes to the pelvic floor. Therefore pelvic floor muscle strength is impaired shortly after vaginal delivery, but recovers in most women within 2 months. **Peschers et al** – BJOG 1997.

c) **Nerve damage** – Pudendal nerve is susceptible to compression & damage at the point where it curves around the ischial spines & enters the pudendal canal. Denervation injury of the pelvic floor muscles may occur from traction & straining during vaginal delivery.
(Reported in 42-80% of vaginal deliveries). **Snooks et al** – Lancet 1984.
Allen et al – BJOG – 1990.

d) **Collagen & connective tissue changes**

Direct injury leads to repair with weaker collagen & so predispose to the development of prolapse & incontinence due to weakening of the pelvic floor support mechanisms. Pregnancy also results in alterations in collagen (Decrease in total collagen content & increase in glycosaminoglycans) **Lavin et al** – Neural urol urodyn 1997.

Pregnant fascia also has reduced tensile strength - **Lando et al** – contemp rev obst & gynecol 1990.

VI. WHAT DOES PREGNANCY AND DELIVERY DO TO THE PELVIC FLOOR, URINARY TRACT & THE ANAL CANAL (Morphological & Physiological Changes)

a. Dilatation of the ureter more on the right side (in 90% by 3rd Trimester).

b. Bladder is drawn upwards as the uterus enlarges resulting in lengthening of the urethra.

c. In response to estrogen, the urethral mucosa becomes hyperemic & congested & the detrusor muscle hypertrophies.

d. "Pregnancy" **did not** have any significant effect on the anal sphincter morphology & function - **Sultan et al**. Int J colorect Dis – 1993.

e. After vaginal delivery bladder neck position was lower & bladder neck mobility increased -**Meyer et al**. obst & gyn 1998.

f. Repeated vaginal deliveries cause poor function of the distal urethral sphincter mechanism. (Though continence is maintained by the action of proximal sphincter, damage to the distal sphincter may result in stress incontinence "only" in women with impaired proximal sphincter function).

VII. WHAT DO EVIDENCES SAY!!!

a) Role of episiotomy

- Midline episiotomy increases risk of extended trauma - **Shiono et al** – BMJ 2000.

- When episiotomy is restricted an increase in anterior vaginal trauma is seen & this does not necessarily equate to an increase in urinary problems. Thus there is good evidence to support a restrictive policy for episiotomy [absolute risk difference –0.23, 95% CI – 0.35, - 0.11 – **Wooley RJ** – obstet gynecol surv 1995.

- **Sultan et al** – BMJ 1994 – in a retrospective study reported that more than half of the women with 3rd degree perineal tear had undergone an episotomy.

- A non- extented midline episiotomy tripled the risk of fecal incontinence at 3 months post partum compared to spontaneous 2nd degree laceration. An episiotomy may allow the head & shoulder to apply more force to the sphincter leading to occult disruption - **Signorello et al.** BMJ 2000.

b) Perineal massage

Perineal massage appears to protect against perineal trauma [risk diff – 0.08, 95% CI – 0.12, -0.04 – **Eason E et al** obstet gynecol '2000]

c) Mode of delivery

Ventouse delivery associated with less perineal trauma. Ventouse delivery (risk diff – 0.06, 95% CI – 0.10, - 0.02) and spontaneous birth (-0.11,95% CI – 0.18,-0.04) causes less anal sphincter trauma than forceps delivery. **Eason E et al –** obstet gynecol 2000. But in 5 years follow up there was no difference in reported symptoms in women delivered by either ventouse or forceps.

d) Epidural analgesia

- It is associated with an increased risk of instrumental vaginal delivery with attendant perineal morbidity. **Howell CJ** – The Cochrane library, issue 2 oxford : update software, 2002.
- Spontaneous delivery is also slightly more likely among women who delay pushing [(RR, 1.09; 95% CI 1.00 – 1.18)] – **Fraser et al.** Am J obstet gynecol – 2000.

e) Position for delivery

- The mothers position during 2nd stage has little influence on perineal trauma. (supported upright vs recombent : risk diff 0.02, 95% CI – 0.05, - 0.09) . **Eason E et al** - obstet gynecol 2000.
- Mothers should be allowed to adopt any position for delivery that they are comfortable.

f) 3rd and 4th degree perineal trauma

- Ultrasonographically visible (occult) anal sphincter defects are apparent in 82% of women undergoing forceps delivery and in 48% of ventouse deliveries .**Sultan et al** . Int J obstet gynecol 1998.

- Most of these women report infrequent problems and there is no difference in long term follow up between forceps and ventouse delivery – RCOG green top guidelines 1999.

- Pudendal nerve damage can be cumulative. Delivery in 2nd Stage by C. section does not prevent this . **Mac arthur et al** BJOG – 1997.

- It has been shown that ultrasonographically visible anal sphincter defects can be demonstrated in women who had intact sphincter at the time of delivery- **Kammerer - Doak et al** . Am J obstet gynecol 1999. The mechanism of this late disruption is unclear – may be related to infection or haematoma formation or possibly partial unrecognised sphincter ruptures.

- No evidence to suggest that an overlap technique is better than end – to – end approximation of the muscle . **Fitzpatrick et al.** Am J obstet gynecol – 2000.

- Women with previous 3rd or 4th degree tears have approximately 4% risk of anal sphincter damage in subsequent vaginal delivery.

- Women with transient incontinence after first delivery are at risk of worsening of symptoms (17-24%) after subsequent delivery. **Fitzpatrick et al** – 2000.

- But avoid instrumental vaginal delivery and prolonged 2nd stage in deliveries after the first in this context – Evidences say that episiotomy does not prevent muscle damage.

- Symptomatic women – may opt for LSCS in subsequent pregnancies.

- Women who are asymptomatic but with demonstrable anal sphincter defect or abnormal monometry are at risk of new symptoms following subsequent deliveries. **Fynes M et al.** Lancet 1999.

- Women who have undergone a secondary anal sphincter repair should be delivered by C.S.

g) Urinary incontinence

- No difference in urinary incontinence or dyspareunia between the two groups. **Sleep et al.** BMJ 1987.

- There is a high prevalence of genuine stress incontinence and detrusor instability in the antenatal period .

Despite the high prevalence of symptoms in the 3rd trimester & post partum period there was poor correlation between symptoms and urodynamic findings.

The authors concluded that the observed changes in bladder function were consistent with pressure effect of a gravid uterus & “not related” to mode of delivery and neonatal factors.

h) Pelvic organ prolapse & others

- Ageing can exacerbate loss of collagen weakness of fascia & neuropathy. **Laurbergs et al.** Dis colon rectum 1989.
- Prolapse commoner in parous women with 50% of parous women having some degree of genital prolapse.
- Lack of estrogen affects collagen cross linkages in the skin (**Brincat M** – University of London – 1985) and may also affect the levator ani & anal sphincter resulting in alteration in function.
- Estrogen receptor identified in anal sphincter & levator ani & as well as urethra. **Haadem K et al.** obstet gynecol 1991.
- Postnatal anal and urinary incontinence was not related to race, antenatal BMI, family H/o prolapse or collagen weakness & physical markers of collagen weakness. **Chaliha et al.** obstet gyn 1999.
- There was no evidence that an episiotomy decreases the risk of intraventricular haemorrhage or asphyxia of the newborn. **Wooley’s RJ** obstet gynecol surv 1995.

MATERIALS & METHODS

(A) MATERIAL

A prospective study to determine the incidence of perineal morbidity from the parturients attending labour room and a prospective & retrospective study to determine the incidence of episiotomy in a tertiary care obstetric centre, was conducted in Government Kasturba Gandhi Hospital for women & children, Chennai –5, attached to Madras Medical College, Chennai, during the period from November 2004 – August 2005.

SELECTION OF CASES

A total of 330 parturients were recruited for the study.

Group I (Labour natural) - 165 parturients who delivered without an episiotomy.

Group II (Control) - 165 parturients who delivered with an episiotomy.

Inclusion criteria

All parturients irrespective of age, parity, height & weight who delivered vaginally.

Exclusion criteria

Parturients with intra uterine fetal demise.

(B) METHOD

A detailed history taking physical examination and obstetric examination followed by a fixed protocol for conduct of delivery was carried out for all parturients recruited for the study.

The parturition registers from the medical records department were utilised to get the incidence of episiotomy for the years 2003, 2004 & for the first six months of the year 2005.

Conduct Of Labour

All labours were carefully monitored and if required were augmented. Women were in left lateral position during the 2nd stage of labour and were allowed to bear down when they had the urge to do so. Care was taken to prevent perineal lacerations by, preventing too rapid an expulsion of the head by promoting flexion of the head inbetween contractions. Good perineal and para urethral support at the time of crowning of the head and during delivery of the baby was given either by one person, or by two persons (one supporting the perineum and para urethral area during delivery of head and shoulders and the other conducting the delivery). Oxytoxics were given at the time of delivery of

the shoulders. Mediolateral episiotomy was given for the control group. Placenta was delivered by **Brandt Andrew's** techinque. Perineum was then examined in good light with patient in dorsal position and if any lacerations were noted it was sutured, if necessary, with chromic catgut. Episiotomy was sutured in 3 layers with chromic catgut either by interns or post graduates and if needed by the Assistant Professor.

RESULTS

TABLE 1

AGE DISTRIBUTION

Age	L.N		CONTROL	
	No. of Patients	**%**	**No. of Patients**	**%**
≤ 20 yrs.	26	15.76	43	26.06
21-24 yrs	76	46.06	74	44.85
25-29 yrs	52	31.50	41	24.85
≥ 30 yrs	11	6.67	7	4.24
TOTAL	**165**		**165**	

The majority of patients in both the study & control group were aged between 21-24 years.

TABLE – 2

GRAVIDA

Gravida	L.N		CONTROL	
	No. of patients	**%**	**No. of patients**	**%**
Primi	45	27.27	120	72.73
2nd Gravida	77	46.67	36	21.82
3rd Gravida	31	18.79	7	4.24
≥ 4th Gravida	12	7.27	2	1.21
TOTAL	**165**		**165**	

In the study group 27.27% patients were primi's

TABLE – 3

BABY WEIGHT DISTRIBUTION

Baby Weight	L.N		CONTROL	
	No. of patients	**%**	**No. of patients**	**%**
≤ 2 Kg	16	9.70	8	4.85
2.0 – 2.4 kg	30	18.18	25	15.15
2.5 – 2.9 kg	80	48.48	92	55.76
≥ 3.0 Kg	39	23.64	40	24.24
TOTAL	**165**		**165**	

The majority of patients in both the study & control groups had their baby weights between 2.5- 2.9 kg.

TABLE – 4

PARA URETHRAL & PERINEAL SUPPORT

Support	L.N		CONTROL	
	No. of patients	%	No. of patients	%
One	78	47.27	103	62.42
Two	81	49.09	62	37.58
No Support	6	3.64	-	-
TOTAL	**165**		**165**	

In the study group 49.09% patients had two support during delivery.

TABLE – 5

DISTRIBUTION OF PERINEAL TEARS

Perineal Tears	L.N		CONTROL	
	No. of patients	%	No. of patients	%
Anterior only	9	5.45	16	9.70
Posterior – 1st degree	36	21.82	-	-
2nd degree	76	46.06	-	-
3rd degree	16	9.70	7	4.24
4th degree	-	-	-	-
Others	-	-	5	3.03
No Tear	28	16.97	-	-
No tear other than episiotomy	-	-	137	83.03
TOTAL	**165**		**165**	

In both the study & control groups there were no 4th degree perineal tears and 83.03% patients in the control group had no other tears other than an episiotomy.

Inspite of an episiotomy 16.97% patients had tears anterior and posterior.

In the study group, 16.97% patients had no tears.

TABLE - 6

SUTURING OF PERINEAL TEARS

Perineal Tears	L.N		CONTROL	
	No. of patients	%	No. of patients	%
Anterior only	3	1.82	7	4.24
Posterior – 1st degree	20	12.12	-	-
2nd degree	76	46.06	-	-
3rd degree	16	9.70	7	4.24
4th degree	-	-	-	-
Others	-	-	5	3.03
No tear	28	16.97	-	-
No tear other than episiotomy	-	-	137	83.03
Suturing not done	22	13.33	9	5.45
TOTAL	**165**		**165**	

In the control group in spite of giving an episiotomy 4.24% of patients developed external anal sphincter tear.

ANNEXURE TO TABLE 5 & 6

VAGINAL WALL LACERATIONS

A) LABOUR NATURAL GROUP

S. No	Age	Parity	Perineal support	Baby weight	Tear	Needed suturing
1.	20 yrs	P_1	No support	2.6 Kg.	LN with L P- II with vaginal mucosa tear extending posteriorly just short of post. fornix	YES
2.	20 yrs	P_1	2 support	3.45 kg	L.N with LP- II with PUT with Rt. Labia minora tear extending across Labia majora.	YES
3.	21 yrs	P_1	No support	3.0 kg	L.N with LP -II with PUT with multiple vaginal mucosal tears	YES
4.	25 yrs	P_1	2 support	2.6 kg	LN with LP- III b with PUT with lateral vaginal wall tear	YES
5.	21 yrs	P_1	1 support	2.5 kg	LN with LP –I with PUT with multiple vaginal mucosal tears	YES
6.	22 yrs	P_2	2 support	2.4 kg	LN with LP – I with Rt. Small Labia minora tear	NO
7.	38 yrs	P_2	2 support	2.25 kg	LN with LP – II with PUT with skin tear along the post & Lf. lat. vaginal hiatus.	YES
8.	22 yrs	P_2	2 support	2.75 kg	LN with LP – II with lat. vaginal wall tear (small)	NO
9.	24 yrs	P_3	2 support	2.8 kg	LN with LP – II with PUT with a small tear in between Rt. Labia minora & L. majora.	YES

All the vaginal wall lacerations were only muscosal tears.

B) CONTROL GROUP

S. No	Age	Parity	Perineal Support	Baby Weight	Tear	Needed Suturing
1.	20 yrs	P_1	1 support	2.5 kg	LN with episiotomy with Rt. vaginal wall tear	YES
2.	24 yrs	P_1	2 support	2.75 kg	LMC forceps with episiotomy with Extension of episiotomy up wards	YES
3.	22 yrs	P_1	1 support	2.5 kg	LN with episiotomy with Rt. vaginal wall tear	YES
4.	21 yrs	P_1	1 support	2.5 kg	Asst. breech delivery with Rt. vaginal wall tear	YES

Out of the 4 vaginal wall tears the one caused by LMC forceps was deep.

TABLE - 7

BROADER CLASSIFICATION OF PERINEAL TEARS & THEIR DISTRIBUTION IN THE STUDY GROUP IN RELATION TO SUTURING

LABOUR NATURAL			
Perineal tears	**No. of patients**	**Suturing done**	**Suturing not done**
Anterior only	9	3	6
Posterior only	59	49	10
Both anterior & posterior	69	63 → 30 (Posterior alone sutured); 63 → 33 (Both sutured)	6
No tear	28	-	28
TOTAL	**165**		**50**

In the study group 50 patients did not require suturing.

TABLE - 8

ANAL SPHINCTER TEAR IN RELATION TO AGE

Age	L.N	CONTROL
	No. of Patients	No. of Patients
≤ 20 yrs	-	2
21 –24 yrs	6	3
25 – 29 yrs	9	2
≥ 30 yrs	1	-
TOTAL	**16**	**7**

In the study group 9 patients with anal sphincter tear were aged between 25 – 29 yrs.

TABLE 9

GRAVIDA & ANAL SPHINCTER TEAR

Gravida	L.N	CONTROL
	No. of Patients	No . of Patients
Primi	7	7
2nd Gravida	7	-
3rd Gravida	2	-
≥ 4th Gravida	-	-
TOTAL	**16**	**7**

In the control group all the patients with external anal sphincter tear were primi's.

TABLE 10

ANAL SPHINCTER TEAR IN RELATION TO

BABY WEIGHT

Baby Weight	L.N	CONTROL
	No. of Patients	No. of Patients
≤ 2 kg	2	-
2.0 – 2.4 kg	1	2
2.5 – 2.9 kg	5	4
≥ 3.0 kg	8	1
TOTAL	**16**	**7**

In the study group majority of patients with anal sphincter tear had their baby's weighing ≥ 3.0 kg.

TABLE - 11

ANAL SPHINCTER TEAR IN RELATION TO PERINEAL SUPPORT

Support	**L.N**	**CONTROL**
	No. of Patients	**No. of Patients**
One	6	3
Two	7	4
No support	3	-
TOTAL	**16**	**7**

In the study group 3 patients had no perineal support during their delivery .

TABLE - 12

SEVERITY OF ANAL SPHINCTER TEAR AND ITS DISTRIBUTION

Degree of anal sphincter tear	LN	CONTROL	FOLLOW – UP	
			LN	CONTROL
	No. of patients	No. of patients	No. of patients	No. of patients
< 50% EAS torn	7	2	2	2
> 50% EAS torn	9	5	4	2
TOTAL	16	7	6	4
			10	

In this study 14 patients on the whole had > 50% of external anal sphincter torn during the process of parturition.

ANNEXURE TO TABLE 9,10&11

ANAL SPHINCTER TEAR IN RELATION TO PERINEAL SUPPORT & BABY WEIGHT

	L.N						**LN WITH EPISIOTOMY (CONTROL)**		
	PRIMI			**≥ 2ND GRAVIDA**			**PRIMI**		
No. Of Patients	7			9			7		
Perineal & Para Urethral support	One	Two	No support	One	Two	No support	One	Two	No support
No. of Patients	1	4	2	5	3	1	3	4	-
Baby Weight									
≤ 2.0 kg			2						
2.0 – 2.4 kg					1		1	1	
2.5 - 2.9 kg	1	2		1		1	2	2	
≥ 3.0 kg		2		4	2			1	
Cause of Tear **In ≤ 2.0 kg group**			Very short 2nd stage with rapid expulsion of fetus with no perineal support						
In 2.0 – 2.4 kg group					prolonged 2nd Stage			Outlet forceps	
In 2.5-2.9 kg group	Rigid perineum	Rigid perineum		one perineal support		3rd gravida with quick progress of labour with no perineal support			
In ≥ 3.0 Kg Group		Probably Big Babies		One patient was G_2A_1 and others 2nd gravida with probably big babies with one support	one was a 2nd gravida and another was a 3rd gravida			Outlet forceps	

All mothers in the LN group were ≤ 30 yrs.

TABLE - 13

INDICATIONS FOR WHICH EPISIOTOMY WAS GIVEN IN THE CONTROL GROUP

Indications	PRIMI	MULTI
Rigid perineum	10	-
Malpositions	5	2
Malpresentations (Breech)	3	1
LMC forceps	8	1
Outlet forceps	7	-
Vacuum delivery	1	-
Big baby (≥ 3.0 kg)	10	2
VBAC	-	8
Preterm	2	3
Heart disease	-	3
PIH	2	1
IUGR/SGA	1	-
Twins	2	2
Total	**51**	**23**

Total no. of cases with episiotomy (Control group) = 165

Total no. of indicated episiotomy = 74

Percentage of indicated episiotomy = 44.85%

TABLE - 14

HOSPITAL INCIDENCE

Year	2003	2004	2005 (upto june 30th)
Total No. of Vaginal Deliveries	7279	6103	2744
Total No. of LN with episiotomy	5965	4956	1981
Episiotomy percentage	81.95	81.20	72.19

The incidence of episiotomy for the years 2003,2004 and first 6 months of 2005 were 81.95%, 81.20%, 72.19% respectively.

TABLE – 15

FOLLOW UP DETAILS

Methods of Follow – Up		**LN**	**Control**	**TOTAL**
Post – natal visit after 2 weeks		**30**	**20**	**50**
Telephone enquiry	After ≥ 1 month	2	18	
	After ≥ 2 months	46	34	
	Total	**48**	**52**	**100**
Postal questionnaire	After ≥ 1 month	5	10	
	After > 2 months	20	40	
	Total	**25**	**50**	**75**
TOTAL		103	122	**225**

Out of the total 330 patients only 225 patients could be followed up.

TABLE -16

OUTCOME OF FOLLOW UP

Complaints	LN		CONTROL	
	No. Of Patients followed up	**%**	**No. Of Patients followed up**	**%**
	103		122	
Persistent Pain For ≥ 1 Week	15	14.56	85	69.67
Prolonged pain after ≥ 2 months	-	-	1	
Urinary Symptoms After ≥ 2 Months	1		-	-

- The above patient with urinary symptoms was a P_2L_2 with voiding difficulties, which she complained off during the antenatal period also.
- The patient with prolonged pain was a para one, delivered by an outlet forceps with episiotomy with coincidental para urethral tear.

TABLE – 17

FOLLOW-UP OF ANAL SPHINCTER TEAR PATIENTS

Methods of Follow – Up		**LN**	**Control**	**Total**
Post – natal visit ≥ 2 weeks		2	1	**3**
Telephone enquiry	After ≥ 1 month	-	-	
	After ≥ 2 months	4	3	
	Total	**4**	**3**	**7**
Postal questionnaire	After ≥ 1 month	-	-	
	After > 2 months	-	-	
	Total	**-**	**-**	**-**
TOTAL		6	4	**10**

Out of the total 23 patients with anal sphincter tear in both the groups, only 10 patients could be followed up.

DISCUSSION

The incidence of perineal pain after 1 weak postpartum in my study was 14.56% (LN group) Vs 69.67% (CONTROL). P = <0.05 (Statistically Significant). This is consistent with the observation made by **Macarthur AJ**[1] in 2004 – (60% Vs 71%).

Incidence of anterior perineal lacerations in my study was 47.27% (LN group) Vs 9.70% (CONTROL) - similar to the observations by **Myers –Helfgott et al**[2] in 1999 & **Argentine Collaborative Trial**[3] in 1993 that episiotomy decreases anterior perineal lacerations.

The incidence of perineal trauma in the study (LN) group was 83.03% [similar to national maternity statistics, ENGLAND Department of Health[4] in 1998 (i.e) >85% of woman who have vaginal birth will sustain some degree of perineal trauma].

Perineal trauma that required suturing in the study (LN) group was 69.70% [similar to **Sleep j et al**[5] in 1984 and **MC CANDISH R et al**[6] in 1998 (i.e) of the patients who sustain perineal trauma 60-70% will require suturing.

In my study there were no 4th degree tears in both the groups.

Severe perineal lacerations [(ie) 3rd degree LP] in my study was 9.70% (study group) Vs 4.24% (control group). Severe lacerations in PRIMI was 4.24% (study group) Vs 4.24 % (CONTROL) and in multi was 5.45% (study group) Vs No tear (CONTROL). These results were consistent with **Thacker & Banta**[7] in 1983 (ie) 0-6.4% in those with labour natural and 0-23.9% in those with episiotomy.

The risk factors for severe perineal lacerations identified in my study.

Study (LN) Group	**Control**
• Very short 2nd stage either in PRIMI or multi with no perineal support	• Forceps delivery
	• Medio lateral episiotomy
• Rigid perineum	
• Big babies	

Although vaginal wall lacerations were common in labour natural group they were all superficial similar to **Ecker JL et al**[8] in 1997.

The incidence of episiotomy in my institution is approximately 81%. There are wide variations in incidence of episiotomies, Netherlands – 80%, England & wales – 20 %, U.S.A – 50%, Eastern European countries – 99% - **NHS Executive**[9,10,11,12].

Indicated episiotomy in my study was only 44.85% (**WHO** recommendations are that episiotomy should be around 10% and not more than 20%).

SUMMARY

The majority of patients in both the study and control group were aged between 21-24 yrs and had their baby weights between 2.5 to 2.9 kg (Table 1&3) .

In the study group 27.27% patients were primis and 49.09% patients had two support during parturition (Table 2&4).

Inspite of an episiotomy 16.97% had other tears (Anterior and Posterior perineal lacerations) and in that 4.24% patients had external anal sphincter tear (Table 5).

In the study group 16.97% patients had no lacerations perineum and in those who sustained perineal lacerations 50 patients did not require suturing (Table 5 & 7).

The vaginal wall lacerations in the study group were mostly mucosal tears. (Annexure to table 5 & 6).

The majority of patients with anal sphincter tear in the study group were aged between 25 - 29 years, with baby weights $\geq$ 3.0 kg. The sphincter tears were equally distributed in primi's and 2nd gravida. (Table 8,9 & 10).

Most of the patients with anal sphincter tear in the control group had two support. (Table 11).

Out of the total of 23 patients with anal sphincter tear, 14 patients had more than 50% of EAS torn and only 10 could be followed up. (Table 12&17).

In my study only 44.85% of episiotomies were indicated (Table 13).

The incidence of episiotomy in my institution for the years 2003,2004 and first six months of 2005 were 81.95%,81.20% and 72.19% respectively. (Table 14).

Out of the total of the 330 patients only 225 patients could be followed up and 69.67% patients in the control group had persistent pain for one or more week (Vs 14.56% in the study group) (Table 15 & 16). The short term perineal morbidity in parturients who delivered without an episiotomy is definitely less than those who delivered with an episiotomy indicating that perineal pain is more frequent and severe for women with increased perineal trauma.

CONCLUSION

This study throws light on the fact that short term perineal morbidity is significantly lower in parturients who delivered without an episiotomy & that episiotomy did not offer protection against sustaining severe perineal lacerations. So an attempt should be made to keep the incidence of episiotomy as low as wisdom allows.

Further large scale studies will raise the curtain for a better understanding of severe perineal lacerations in the Indian Sub Continent.

It is difficult to obtain a global perspective on spontaneous perineal trauma requiring suturing due to inconsistency in classification and under reporting of perineal trauma.

Severe perineal lacerations are associated with large babies, short 2^{nd} stage of labour, lack of perineal support, rigid perineum and instrumental vaginal deliveries.

Diverse rates of episiotomy in different countries suggest that the practice of episiotomy is not always justified.

Episiotomy does not protect the anal sphincter complex.

Prudent clinical judgement should dictate the necessity for an episiotomy.

Changing the way physicians practice medicine can be difficult. Perhaps more hospital perinatal review committees should evaluate the episiotomy practices and strive to convince their staffs to decrease their episiotomies. (i.e should be given only to patients were it is indicated). By doing so we can learn to be more patient and allow the natural forces of labour to gradually stretch the perineum.

Ideally a dedicated **"Perineal dysfunction clinic"** should be set up, for follow up of women experiencing persistent problems after delivery, consisting of an obstetrician and physiotherapist with access to appropriate investigation techniques such as endoanal ultrasound and manometry. Urinary problems are amenable to biofeedback techniques and physiotherapy input is vital to ensure that these are appropriately taught & reinforced.

BIBLIOGRAPHY

1. **MACARTHUR AJ** – Incidence, severity & determinants of perineal pain after vaginal delivery: a prospective cohort study – Am J obstet & gynecol – 2004.
2. **MYERS – HELFGOT MG et al.** - Routine use of episiotomy in modern obstetrics : should it be performed? obstet gynecol clin North Am – 1999.
3. **BELIZAN J – ARGENTINE COLLABORATIVE TRIAL** - Routine Vs Selective episiotomy: a randomised controlled trial. Lancet – 1993.
4. **National Maternity statistics** : England. Department of health – 1998.
5. **SLEEP J et al.** West Berkshire- perineal management trial. BMJ – 1984.
6. **Mc CANDISH R et al.** -A randomised controlled trial of care of the perineum during 2nd stage of normal labour. BJOG – 1998.
7. **THACKER SB BANTA HD.** Benefits & risks of episiotomy:an interpretive review of the english language literature, 1860 –1980. Obstet gynecol surv – 1983.

8. **ECKER JL et al.** – Is there a benefit to episiotomy at operative vaginal delivery? Observations over 10 years in a stable population. Am J obstet gynecol – 1997.
9. **RENFREW MJ, HANNAH W et al.** - Practices that minimise the trauma to the genital tract in child birth: A systematic review of the literature. Birth – 1998.
10. **GRAVES EJ.** Summary: National hospital discharge survey. Advance data from vital health statistics – 1995.
11. **GRAHAM ID et al.** -Episiotomy counts : Trends & prevalence in Canada.Birth – 1997
12. **AUDIT COMMISSION.** - First class delivery. Improving maternity services in England & wales. London. Audit Commission Publication 1997.
13. **NYGAARD et al.** - Anal incontinence after anal sphincter disruption : a 30 year retrospective cohort study. obstet gynecol – 1997.
14. **KAMMERER – DOAK DN et al.** - A prospective cohort study of women after primary repair of obstetric anal sphincter laceration. Am J obstet gynecol – 1999.
15. **WAGNER M.-** Pursuing the birth machine.

    The search for appropriate birth technology. ACE graphics. Camperdown.

16. **CARROLI G et al.** - Episiotomy policies in Vaginal births. (COCHRANE REVIEW). OXFORD UPDATE SOFTWARE.
17. **GLAZENER CMA et al.** - Post natal maternal morbidity : Extent, causes, prevention & treatment. BJOG – 1995.
18. **KETTLE C et al.** - Absorbable synthetic vs catgut suture materials for perineal repair (COCHRANE REVIEW). OXFORD UPDATE SOFTWARE.
19. **MOHAMMED K et al.** - The southmead perennial suture study. A randomised comparison of suture materials & suturing techniques for repair of perineal trauma. BJOG – 1989.
20. **MACKRODT C.** - The Ipswich childbirth study. A randomised comparison of suture materials & suturing techniques for repair of perineal trauma. BJOG – 1998.
21. **GEMYNTHE A et al.** - New VICRYL formulation; An improved method of perenial repair? BJ of midwifery – 1996.
22. **KETTLE C et al.**- Continuous Vs interrupted sutures for perineal repair (COCHRANE REVIEW).OXFORD UPDATE SOFTWARE.
23. **FLEMING N.** - Can the suturing method make a difference in post partum perineal pain. Journal of Nurse – Midwifery – 1990.
24. **GORDON B et al.** - The Ipswich child birth study. A randomised evaluation of 2 stage post partum perineal repair leaving the skin unsutured. BJOG – 1998.

25. **FYNES M et al.** - Effect of 2nd vaginal delivery on ano-rectal physiology & fecal incontinence . LANCET – 1999.

26. **HERTZ AF.** - Constipation & allied intestinal disorders. London Oxford University Press, 1909

27. **PESCHERS UM et al.** - Levator ani function before & after childbirth. BJOG – 1997.

28. **SNOOKS et al. -** Injury to the innervation of pelvic floor sphincter musculature in child birth. LANCET – 1984.

29. **ALLEN RE et al. -** Pelvic floor damage & child birth : a neurophysiological study. BJOG – 1990.

30. **SULTAN AH et al.** - Effect of pregnancy on anal sphincter morphology & function. Int J colorect Dis – 1993

31. **SULTAN AH et al.** - Pudendal nerve damage during labour : Prospective study before & after childbirth, BJOG – 1994.

32. **MEYER S** - The effects of birth on Urinary continence mechanisms & other pelvic floor characteristics. Obstet Gynecol – 1998.

33. **WOOLLEY RJ**. Benefits & risks of episiotomy : a review of the English literature since 1980. Obstet gynecol Surv – 1995.

34. **EASON E et al -** preventing perineal trauma during child birth : A systematic review. Obstet gynecol – 2000.

35. **FRASER et al** – Multicentre RCT of delayed pushing for nulliparous women in the 2nd stage of labour with continuous epidural analgesia. The PEOPLE study group. Am J obstet gynecol – 2000.
36. **SULTAN et al** – Occult anal sphincter trauma following randomised forceps & vacuum delivery. Int J obstet gynecol – 1998.
37. **MAC ARTHER et al.** - Faecal incontinence after child birth. BJOG – 1997.
38. **FITZPATRICK M et al. -** A randomised clinical trial comparing primary overlap with approximation repair of 3rd degree tears. AM J obstet gynecol – 2000.
39. **SLEEP J et al. -** West Berkshire perineal management trial 3 years follow-up. BMJ 1987.
40. **BRINCAT M. -** Skin Collagen content & thickness & their relationship to bone in untreated & estrogen treated post menopausal women. London Ph.D Thesis. University of London –1985.
41. **HAADEM K et al. -** Estrogen receptors in external anal sphincter : obstet gynecol 1991.
42. **LAURBERG S et al.** - Effects of ageing on the anorectal sphincters & their innervation . Dis colon rectum – 1989.
43. **CHALIHA et al.** - Antenatal prediction of post partum urinary & fecal incontinence .obstet gynecol – 1999.

44. **LAVIN JM -** The effect of the 1st pregnancy on the connective tissue of the rectus sheath. Neurourol Urodyn – 1997.

45. **LANDON CR et al.** - Mechanical properties of fascia during pregnancy, a possible factor in the development of stress incontinence of urine. Contemp rev. obstet gynecol –1990.

46. **THOMAS T M** - The prevalence of faecal & double incontinence. Community med – 1984.

47. **THOMAS T M** - The prevalence of Urinary incontinence . BMJ – 1980.

48. **CHALIHA et al.** - Pregnancy ,child birth & delivery : a urodynamic view point BJOG – 2000.

49. **ZETTERSTROM JP et al.** - Anal incontinence after vaginal delivery:a prospective study in primiparous women. BJOG – 1999

50. **CRAWFORD LA et al.** - Incontinence following rupture of the anal sphincter during delivery. obstet gynecol – 1993

51. **TETZSCHNER T et al. -** Anal & urinary incontinence in women with obsetric anal sphincter rupture. BJOG – 1996

52. **SHIONO P et al. -** Midline episiotomies : more harm then good? obstet gynecol – 1990.

53. **SAINIO P et al.** - Fistula in ano. Clinical features and long term results of surgery in 199 adults. Acta chir scand – 1985.

54. **SHOULDER PJ et al.** - Fistula in ano is usually simple to manage surgically. Int J colorect Dis – 1986.

55. Royal college of obstetricians and gynaecologists. Instrumental vaginal delivery, clinical green top guidelines No. 26, London : RCOG Press – 1999.

56. **THORPE JM et al. -** selected use of midline episiotomy effect on perineal trauma. obstet gynecol – 1987.

57. **KLEIN MC et al. -** relationship of episiotomy to perineal trauma & morbidity, sexual dysfunction & pelvic floor relaxation. Am J obstet gynecol – 1994

58. **BANSAL et al.** - Is there a benefit to episiotomy at spontaneous vaginal delivery? A Natural experiment Am J obstet gynecol – 1996

59. **HEUSTON WJ** - Factors associated with the use of episiotomy during vaginal delivery. obstet gynecol – 1996

60. **HOWARD D et al.** - Differences in perineal lacerations in black and white primiparas. obstet gynecol – 2000

61. **ANGIOLI R et al.** - Severe perineal lacerations during vaginal delivery : The University of miami experience .Am J obstet gynecol – 2000.

62. **COATES PM et al. -** A comparison between midline & mediolateral episiotomies. BJOG – 1980.

63. **NAGER C W et al. -** Episiotomy increases perennial laceration length in primiparous women. Am J obstet gynecol – 2001.

64. **De Leeuw Jw et al. -** Risk factors for 3rd deg perineal ruptures during delivery. BJOG – 2001.

65. **MARTIN S et al. -** The association between perineal trauma & spontaneous perineal tears. J Fam Pract – 2001

66. **WEBER AM et al. -** Episiotomy use in united states. obstet gynecol – 2002.

67. **HOWDEN NLS et al. -** Episiotomy use among residents & faculty compared with private practitioners. obstet gynecol – 2004.

68. **SIGNORELLO LB et al. -** Midline episiotomy & anal incontinence: Retrospective cohort study. BMJ – 2000.

69. **KLEIN MC et al. -** Determinants of vaginal – perineal integrity & pelvic floor function in child birth. Am J obstet gynecol – 1997.

70. **DEERING SH et al. -** Perineal body length & lacerations at delivery. J Reprod med – 2004.

PROFORMA

Name **Age** **IP No**

Occupation **Address** **Phone No**

Booked: Yes/ No **Immunised :** Yes / No

Obstetric equation: - **G** **P** **L** **A**

LMP **EDD**

Past obstetric History: H/O 3rd deg LP, CPT, any other complications

Past Medical History: H/o heart disease, TB, Asthma, D.M, Ch HT, Renal disease, Anaemia.

Personal History: Smoking / Alcohol

Present obstetric History:

- Gen Ex:
- Abdominal Ex:
- P/v

Mode of delivery: LN / LN with episiotomy / Instrumental Delivery
(LMC / Vacuum/ Outlet)

Perineal & para – urethral support: 1 / 2 / No support

Foetal outcome: Live birth / Dead born / Born alive & died later

- **Baby Weight:**
- **NICU admission** : Yes / No

If yes (cause)

Perineal Examination:

- LN with episiotomy - No other tears other than episiotomy, Ant. perineal tears, vaginal wall trauma, extension of episiotomy, associated with external sphincter tear.

  Sutured : - Yes / No

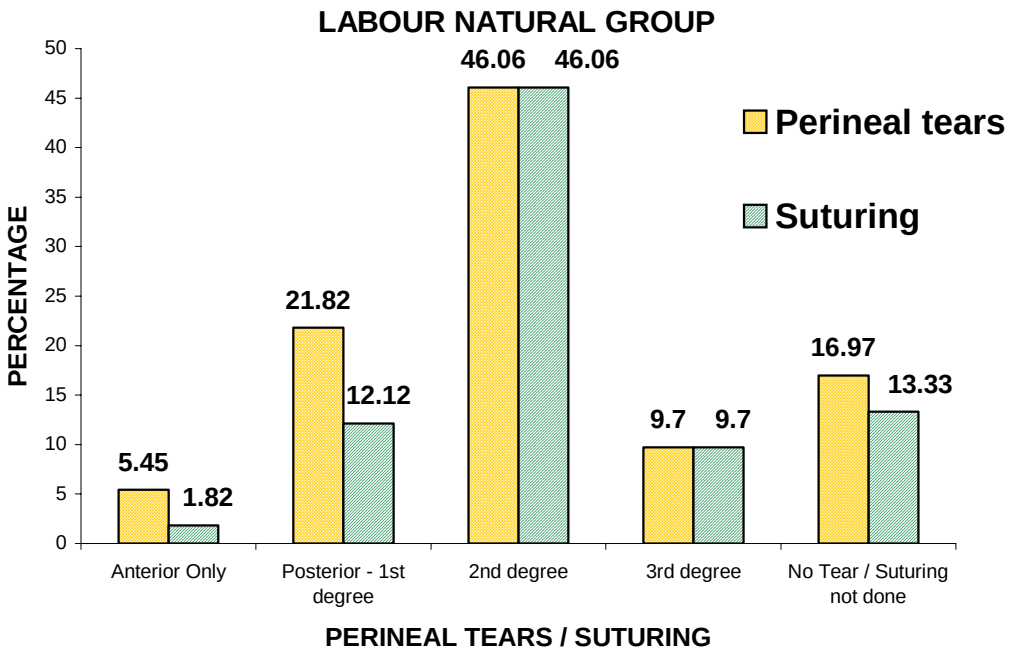
- LN - Perineal tears - Anterior
  - Posterior
  - Both
- Perineal tears classified as lacerations perineum
  - 1st degree
  - 2nd degree
  - 3rd degree
  - 4th degree

  Sutured : Yes / No

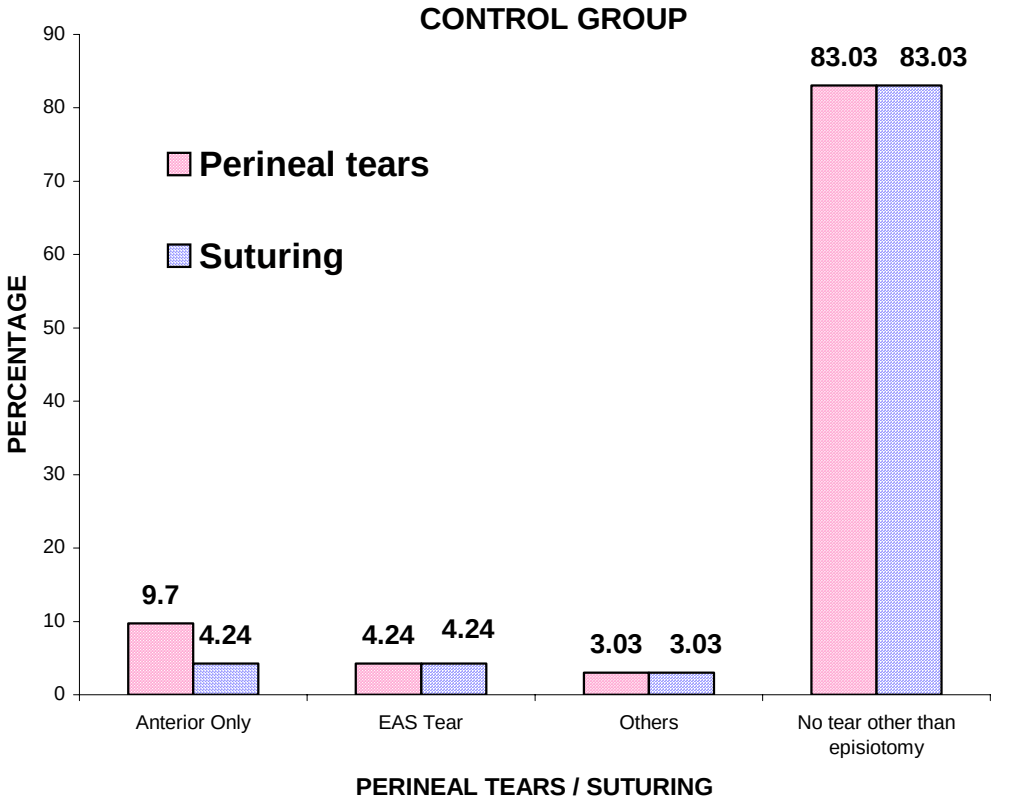
  If yes (what was sutured)-

Follow – up:

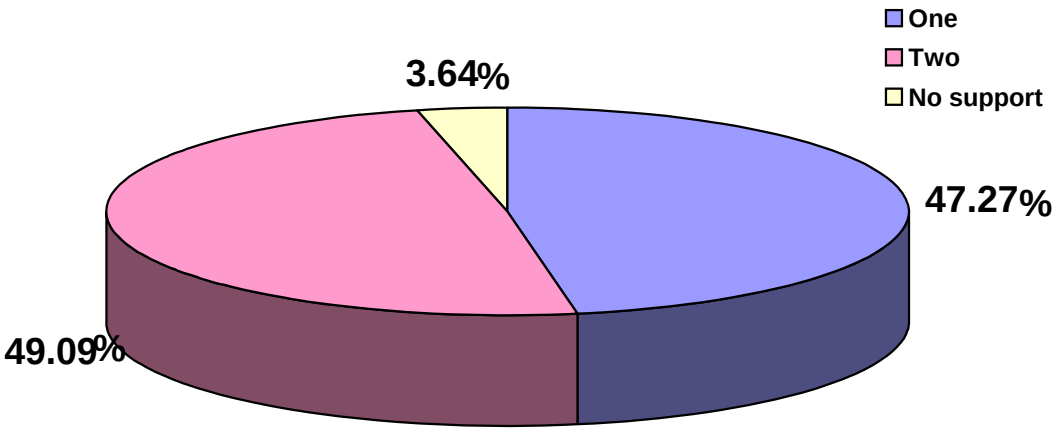
PERINEAL TEARS AND THEIR SUTURING



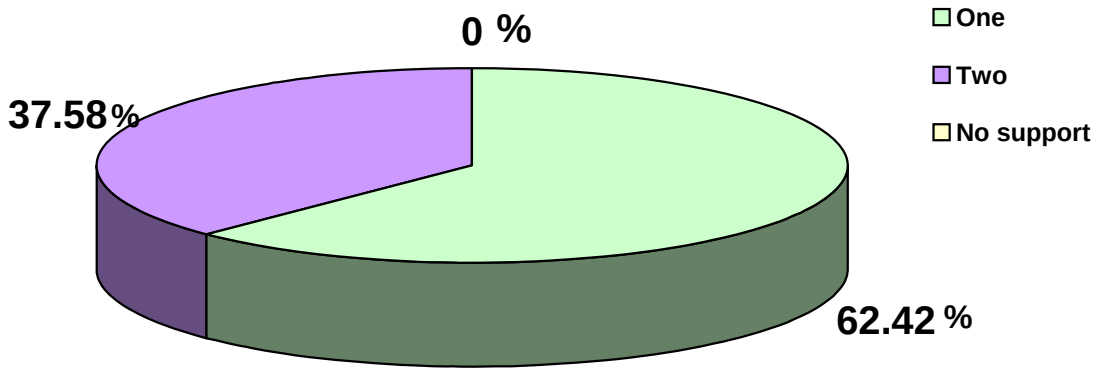
DISTRIBUTION OF PERINEAL TEARS AND THEIR SUTURING

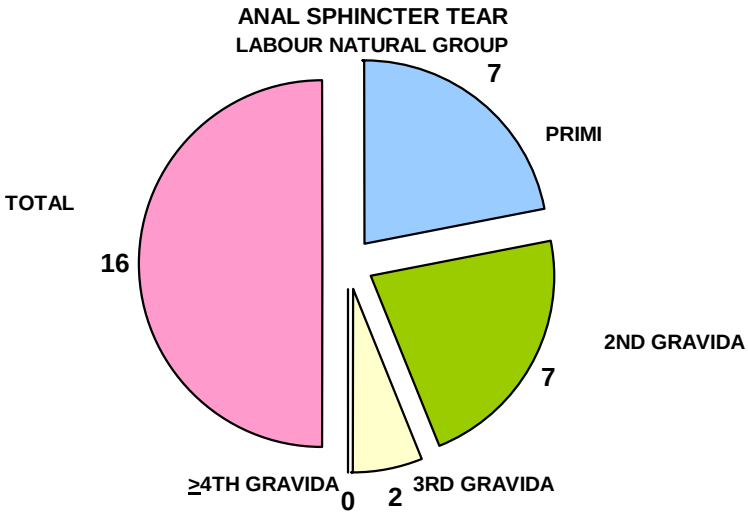


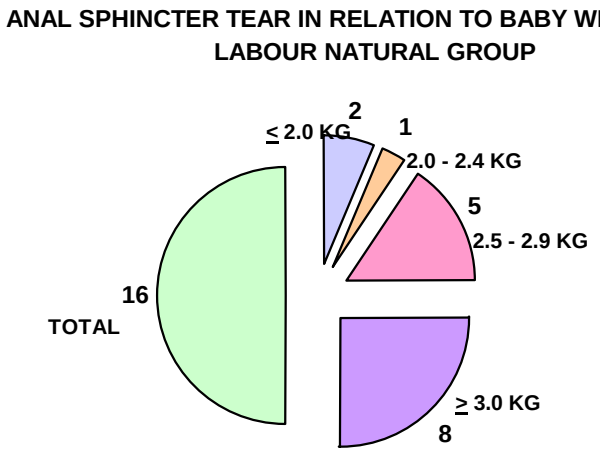
PARA URETHRAL & PERINEALSUPPORT LABOUR NATURAL



PARA URETHERAL & PERINEAL SUPPORT CONTROL GROUP




ANAL SPHINCTER TEAR
LABOUR NATURAL GROUP
7
PRIMI
TOTAL
16
2ND GRAVIDA
7
≥4TH GRAVIDA
0
2
3RD GRAVIDA


ANAL SPHINCTER TEAR IN RELATION TO BABY WEIGHT
LABOUR NATURAL GROUP
2
≤ 2.0 KG
1
2.0 - 2.4 KG
5
2.5 - 2.9 KG
16
TOTAL
≥ 3.0 KG
8

ANAL SPHINCTER TEAR IN RELATION TO BABY WEIGHT

CONTROL GROUP